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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/922,760 | 08/06/2001 | Takashi Mizokawa | YAMAH6.007A | 1621 |

| | | | EXAMINER |
|---|---|---|---|
| 20995 | 7590 | 09/13/2004 | LERNER, MARTIN |

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

| ART UNIT | PAPER NUMBER |
|---|---|
| 2654 | |

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
| --- | --- | --- |
| **Office Action Summary** | 09/922,760 | MIZOKAWA, TAKASHI |
| | Examiner | Art Unit | |
| | Martin Lerner | 2654 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on \_\_\_\_\_.

2a)☐ This action is **FINAL**.  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 to 20* is/are pending in the application.

    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)☐ Claim(s) \_\_\_\_\_ is/are allowed.

6)☒ Claim(s) *1 to 20* is/are rejected.

7)☐ Claim(s) \_\_\_\_\_ is/are objected to.

8)☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on \_\_\_\_\_ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All  b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/6/01 & 2/12/02</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. \_\_\_\_\_ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1.      The disclosure is objected to because of the following informalities:

On page 4, lines 4 to 8, the copending United States Patent Applications should

be updated, as follows:

Serial No. 09/393,146 is now U.S. Patent No. 6,604,091 issued 05 August 2003.

Serial No. 09/736,514 is now U.S. Patent No. 6,629,242 issued 30 September

2003.

Serial No. 09/129,853 is now U.S. Patent No. 6,230,111 issued 08 May 2001.

Serial No. 09/630,577 is now U.S. Patent No. 6,347,261 issued 12 February

2002.

On page 5, line 15, Figure 5 is a block diagram, not a flow chart.

On page 9, line 24, "base" should be –based—.

On page 13, line 9, "be" should be deleted before "suggested".

On page 18, line 5, "4f" should be –2f—.  See Figure 2.

On page 21, line 23, "neumatic" should be –pneumatic—.

On page 22, line 6, "neumatic" should be –pneumatic—.

On page 26, line 13, "S110" should be –S100—.  See Figure 6.

On page 27, line 7, "4j" should be –4i—.  See Figure 2.

On page 28, line 1, "5c" should be –5b—.  See Figure 2.

Appropriate correction is required.

## *Claim Rejections - 35 USC § 102*

2.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.      Claims 1 to 3, 5, 6, 9 to 11, 13 to 15, and 20 are rejected under 35 U.S.C. 102(b)

as being anticipated by *Henton*.

Regarding independent claims 1, 5, 9, 13, 14, and 15, *Henton* discloses a

method and apparatus for automatic generation of vocal emotions, comprising:

"a sound data memory which stores a different sound assigned to each pseudo

emotion" – Table 2 gives examples of the defined emotions with their associated vocal

emotion values; the values in Table 2 are relative to the default neutral speech setting

(column 9, line 56 to column 10, line 40: Table 2); computer system 10 includes

memory 17 (column 5, lines 18 to 35: Figure 1); implicitly, values of emotions shown by

Table 2 are stored in memory 17 of computer system 10;

"a sound signal generator which receives signals from the pseudo-emotion

generator and accordingly generates a sound for each pseudo emotion by retrieving the

sound data stored in the sound data memory" – after a particular emotion has been

chosen 503 ("receives signals from the pseudo-emotion generator"), the appropriate

speech synthesizer values are obtained via look-up table 505 ("generates a sound by

retrieving sound data stored in the sound data memory") (column 9, lines 47 to 55:

Figure 5: Steps 503 and 505; column 4, lines 38 to 59);

"a sound synthesizer which is programmed to synthesize a sound by combining

each sound signal from the sound signal generator, wherein the user can recognize

overall emotions generated in the interaction device" – appropriate speech synthesizer

values are applied by embedding the appropriate speech synthesizer commands to be

output by the text-to-speech system (column 9, lines 47 to 55: Figure 5: Step 507;

column 4, lines 38 to 59);

"an output device which outputs a synthesized sound to the user" – computer

system 10 has output 21, which implicitly includes a speaker for producing audio to

output synthetic speech by a text-to-speech system.

Regarding claims 2, 6, and 10, *Henton* discloses a plurality of emotions ("multiple

sets of sound data") are stored by Table 2, with each emotion represented by

parameters for pitch, volume, and speaking rate (column 10, lines 17 to 40: Table 2); a

particular vocal emotion is chosen 503 ("a selection device which selects a set of sound

data to be used based on a designated selection signal") (column 9, lines 41 to 55:

Figure 5: Step 503).

Regarding claims 3 and 11, *Henton* discloses emotions are defined by a

speaking rate (column 10, lines17 to 40: Table 2); emotions for a concatenative speech

synthesizer involve parameters including speech rate and duration (column 3, line 54 to

column 4, line 11: Table 4; column 12, lines 1 to 14: Glossary); thus, broadly, both

duration and speaking rate involve a "designated selection signal indicating the passage

of time."

Regarding claim 20, *Henton* discloses emotions are defined by a volume varying

between 0.2 for low to 0.8 for high from a default of 0.5 (column 10, lines 17 to 40:

Table 2; column 4, lines 1 to 11: Table 1; column 11, lines 1 to 42); thus, Angry2,

Aggressive, and Happy are given greater intensity than Sad or Tired ("produce an

acoustic effect equivalent to the intensity of the pseudo-emotion").

### *Claim Rejections - 35 USC § 103*

4.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.     Claims 4, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable

over *Henton* in view of *Saito*.

*Henton* generally discloses an interactive device, insofar as computer system

10 permits a user to interact with a speech synthesizer to select emotions, but omits a

designated selection signal indicating the history of interaction between the user and the

interactive device.  However, it is known for games and toys to draw on a history of

interaction with a user to determine a personality for a game or toy.  *Saito* teaches a

method for controlling character based electronic game development, where initial

values of personality elements of a player character are determined before the main

part starts, but when a pre-event is executed, initial values of the personality elements

which correspond to the type of pre-event data can be increased or reduced. Thus,

when a player character gets a ring for a girl, initial values of personality elements

relating to a sense of beauty are increased, and when a player character plays baseball,

initial values relating to exercise ability are increased. (Column 9, Line 35 to Column

10, Line 6) The objective is to improve video games in which scenario-based contents

are developed by permitting a game player more naturally to recognize scenario-based

developments and to smoothly change characteristics of a player character. (Column 2,

Lines 1 to 20) It would have been obvious to one having ordinary skill in the art to

select emotions in an interactive device of *Henton* by a signal indicating a history of

interaction as taught by *Saito* for the purpose of permitting characteristics to naturally

develop in a scenario-based video game.


6.      Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

*Henton* in view of *Edatsune ('488)*.

Concerning claim 7, *Henton* discloses a method and apparatus for generation of

emotions by user interaction with a computer system 10, but omits a growth stage

selection unit to select an artificial growth stage based on the passage of time by a

signal from a growth stage calculating unit. However, *Edatsune ('488)* teaches a toy

providing interactive speech recognition with varying responses, where a response level

value is gradually increased to provide an illusion that a stuffed toy is growing up like a

living creature as time passes. Thus, a stuffed toy can only respond with "Bow-wow" to

"Good morning" on the first day after being purchased, but on the second day, it can

respond "G-o-o-d mor-ning" to "Good morning", and after several days, the stuffed toy

can respond with "It's a nice day, isn't it?" to "Good morning" because of a higher level.

(Column 12, Lines 12 to 56: Working Example 3)  The objective is to enable a more

sophisticated interaction by a toy in response to speech issued by a user.  (Column 1,

Lines 30 to 46)  It would have been obvious to one having ordinary skill in the art to

provide a growth stage selection unit for calculating a growth stage based on the

passage of time as taught by *Edatsune ('488)* in a method and apparatus for generating

emotions of *Henton* for the purpose of enabling a more sophisticated interaction by a

toy in response to speech issued by user.

Concerning claim 16, *Henton* discloses a speech synthesis method and

apparatus for generating emotions, where any stimulus to produce emotions is provided

by a user through keyboard or touch screen input 13, but omits a stimulus recognition

device for recognizing stimuli from the outside.  However, it is well known, generally, for

interactive voice response (IVR) systems to provide speech recognition and speech

synthesis, and, specifically, for a toy to include interactive voice response (IVR) so as to

recognize speech and respond with synthetic speech.  *Edatsune ('488)* teaches a toy

providing interactive speech recognition with varying responses, where microphone 1,

speech analysis unit 2, and speech recognition unit 5 recognize input speech, and

speech synthesis unit 6 and speaker 8 output the content of speech synthesized to the

outside.  (Column 4, Line 40 to Column 5, Line 5: Figure 1A)  Also, a response content

creation unit outputs responses by taking into consideration environmental temperature

and air pressure. (Column 3, Lines 1 to 10) The objective is to enable a more

sophisticated interaction by a toy in response to speech issued by a user. (Column 1,

Lines 30 to 46) It would have been obvious to one having ordinary skill in the art to

provide a stimulus recognition device for taking into consideration speech, temperature,

and air pressure and for outputting responses as taught by *Edatsune ('488)* in a method

and apparatus for generating emotions of *Henton* for the purpose of enabling a more

sophisticated interaction by a toy in response to speech issued by user.


7.      Claims 17 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

*Henton* in view of *Kibre et al.*

*Henton* discloses a method and apparatus for generation of emotions, where a

table provides for correspondence between registered emotions and sound (column 10,

lines 17 to 40: Table 2), but omits a character forming device for forming any of a

plurality of characters, a growth stage specifying device for specifying growth stage, and

a table selection device for selecting any of a plurality of sound data correspondence

tables. However, *Kibre et al.* teaches a computerized personality system with a text-to-

speech engine, where words and phrases may be tagged to indicate a linguistic context

of which voicing parameters to use. (Column 2, Line 58 to Column 3, Line 18: Figure 1)

Specifically, parameters used by the system provide for speaker types of human, alien,

robot, and animal ("a character forming device for forming any of a plurality of

characters"), and an age parameter for baby, toddler, child, teenager, middle-aged

adult, and old adult ("a growth stage specifying device for specifying growth stage").

(Column 8, Lines 1 to 19) Each linguistic context specifies a set of parameters defining a character type or growth stage, analogous to values for emotions in Table 2 of *Henton*. Thus, each linguistic context is represented by a table of values ("sound data correspondence tables"). The objective is to provide a sophisticated text-to-speech engine that automatically generates natural-sounding spoken messages that enhance the simulation of a human attendant by selecting different types of expressions under different circumstances. (Column 1, Lines 30 to Column 2, Line 2) It would have been obvious to one having ordinary skill in the art to provide a character forming device, a growth stage specifying device, and a table selection device as suggested by *Kibre et al.* in a method and apparatus for generating emotions of *Henton* for the purpose of automatically generating natural-sounding spoken messages that enhance the simulation of a human attendant.


### *Conclusion*

8.      The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

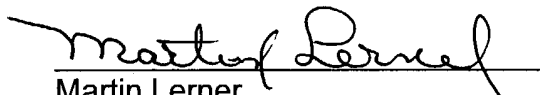Breese et al. discloses related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).


ML
9/8/04



Martin Lerner
Examiner
Group Art Unit 2654